

## Left-invariant metrics on a tensor bundle of type (2,0) over a Lie group

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### Abstract

In this paper, vertical and horizontal lifts of left-invariant vector fields are constructed. Necessary and sufficient conditions for the horizontal lift of left-invariant vector fields to be left-invariant field are established. On the basis of a left-invariant metric on  $G$ , left-invariant vertical and horizontal distributions and a left-invariant metric  $g$  on  $T^0_2 G$  are constructed. © 2013 Pleiades Publishing, Ltd.

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### Keywords

left-invariant metric, tensor bundle over a Lie group, vertical and horizontal distributions, vertical and horizontal lifts